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Because the phenomenon of delayed graduation--the practice of prolonging the college career beyond the normal 4 years of undergraduate study--is so widespread researchers speculated that "continuers" might have certain common characteristics which would differentiate them as a group from "completers." The objective of this paper was to investigate characteristics differentiating completers and continuers which might account for the the ability of the former to complete school. A group of dropout students was included to identify characteristics differentiating continuers and dropouts which might account for the ability of continuers to return to school. Hypotheses to explain delayed graduation were derived from Erikson's (1958) psychological theory, in which adolescence is conceptualized as a period of trying out, in reality or fantasy, a variety of social and occupational roles. Three scales of the Omnibus Personality Inventory administered to 10,000 high school graduates were selected and combined to form an operational measure of intellectual disposition. Evidence substantiated the thesis that the greater the degree of intellectual involvement a student manifests, the greater are his chances of successfully completing college within the conventional time limit. Hypothetical differences between the family climate of completers and continuers were also substantiated: continuers were less likely to perceive their parents as intellectual, energetic, ambitious, loving, or appreciative. (JS)

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Student Characteristics Associated with Varying College Attendance Patterns

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Research on college students, including the study to be reported, has revealed many patterns of college attendance, such as delayed admission, withdrawal from college, transfer, and sporadic attendance. One of the attendance patterns which clearly emerged from the present survey was that of deferred graduation, or the practice of prolonging the college career beyond the four years which normally constitute undergraduate study. Many surmises concerning the reasons for this deferral could be made, and many ad hoc reasons often were put forward by students themselves to explain this state of affairs -- ill-health, temporary withdrawal for financial reasons, non-transfer of credits, and so forth. Nevertheless, the phenomenon of delayed graduation was sufficiently widespread to give rise to speculation that these "continuers" might possess certain characteristics in common which would differentiate them as a group from "completers".

The primary objective of this paper is to investigate characteristics differentiating completers and continuers, which might account for the ability of the former group to complete school. A group of dropout students was also included for comparative purposes to investigate characteristics differentiating continuers and dropouts, which might account for the ability of the continuers to stay in school.

Hypotheses to explain the phenomenon of delayed graduation were derived from Erikson's (1958) psychological theory, in which adolescence is conceptualized as a period of trying out, in reality or fantasy, a variety of social and occupational roles. During this

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period the adolescent becomes more informed about the nature of certain roles, determines the feasibility of a given role in terms of his capacities and interests as well as the environmental possibilities and limitations, and tentatively rejects or adopts this role into a conglomerate set of roles. Some theorists such as Super (1957) view this process of assuming roles as one of matching the self concept against the adolescent's perception of various roles, a process in which both the self concept and the role perceptions become modified.

This period of testing out roles, or "moratorium" as Erikson calls it, may begin in early adolescence and be of relatively brief duration, or begin early or late and be protracted indefinitely, and may involve extremely difficult decisions on the part of the individual concerned. Some young people seem to have the broad lines of their life career mapped out before they leave high school. Others are still changing their occupations or life styles at the age of 25 or 30. People also differ a great deal in the extent to which they become <u>involved</u> in a given role. A person may function efficiently in a certain role for quite a long time without becoming seriously involved. Or he may become involved in some degree without this role forming an essential part of the core of his identity. But when he does become basically committed to a role, this role becomes an essential feature of his life style, and an important and central element in the integration of his self identity.

Any role includes certain attributes which are essential ingredients of it, and other attributes which are not essential to the role and may therefore be considered peripheral. The central element of the role of policeman, for example, is to enforce the law through such routine activities as investigating crime, controlling traffic,

patrolling streets, and so forth, while organizing the police ball, for example, would be considered a peripheral element. The central element of the student's role is to learn, to become acquainted with ideas which have affected the progress of man, in short to grow intellectually, the ultimate aim being the development of the ability to think critically and constructively, and to be ready to make his own contribution, large or small, to society. Acquiring vocational skills, while important, is subsidiary if the central element of the student's role is considered as learning and learning how to think. Many of these vocational skills depend upon a background of basic general education at a high level and, once this has been obtained, can be acquired later through company training, or if more specialized may be postponed until graduate school, or until such time as the basic education has been acquired. In this sense, gaining vocational skills is a more peripheral aspect of the student's role than obtaining a general education; but it is less peripheral than many of the other activities with which a student's time is consumed.

When a young person elects to go to college, he thereby assumes the role of student, whatever that may mean to him. His motives for deciding to attend college may be complex. He may eagerly anticipate the intellectual stimulation and challenge he expects to encounter. He may expect to gain most satisfaction from learning marketable skills. Or, he may place primary value on the opportunity to meet new friends and influential contacts, or to participate in sports, fraternity activities, and the like. All these alternatives fall into some kind of a hierarchy in the student's system of values. In other words, he may place primary value on the intellectual, or central element of his role, or he may be more concerned with what have been designated as peripheral aspects of the role.

As the student progresses through college, this hierarchy may change, possibly as part of a reorientation toward other roles beyond the college environment. But reorientation takes time; trying out different roles takes time. Weinstock (1963) has shown that the more "central elements" a person is required and able to fulfill, the more rapid his acculturation to the society or group holding the expectations that these elements will be present. The individual who is only mildly involved in intellectual endeavor is therefore handicapped in relation to the student who is committed to it as a way of life, at least for the length of time he is in college. Here then, is a possible reason why some students need more time to complete college studies to the point of graduating. We may hypothesize that students who prolong their studies in the way described are less involved in the intellectual aspects of college life, and more involved in other, more peripheral aspects than students who complete punctually.

As already noted, an important feature of intellectual involvement is the ability to think critically without resorting to stereotype or to reliance upon authority for the formation of one's opinions, i.e., intellectual autonomy. Autonomy in the sense defined seems to be one of the most important variables related to academic achievement, as noted by Haggard (1960), in his study of Sarah Lawrence freshmen, by Sontag and Kagan (1963) in their 30-year longitudinal study at the Fels Research Institute, and by Winterbottom (1958) in his study of the relationship between the need for achievement and parental demands for independence and mastery. The hypothesis was therefore extended to include the prediction that a similar distinction would be found on a measure of autonomous

thinking. This is not to overlook the possibility that many completers may be able to graduate by means of complying with faculty and administrative requirements, rather than by means of exercising autonomy of thinking. This kind of "achievement through conformity" is now well-recognized. However, the same kind of conformity may be a factor which is keeping many continuers in school, since they realize the social value of attaining a diploma. Achievement through conformity might, therefore, be expected to be functioning equally in the two groups. But completers, if they are more intellectual, should also be more autonomous, since autonomy is a hypothesized correlate of intellectuality as here defined.

A further hypothesis concerning family background factors was based on the supposition that students who see their parents as having intellectual, or other related, characteristics, would be able to "identify" more readily with the intellectual role as embodied in such "significant others" as faculty members, and hence would find the passage through college smoother and more rapid.

The first section of data to be presented will therefore deal with characteristics of the student groups, while the second section will be concerned with parental variables as they relate to student outcome.

The data were drawn from a large survey of 10,000 high school graduates in 16 communities across the United States. Just prior to graduation, the students were given a sociological questionnaire, the School and College Ability Test (SCAT), and five scales of the Omnibus Personality Inventory (Center for the Study of Higher Education, 1962), a research instrument specifically designed for use with college populations.

Since the primary interest in this paper focussed upon the intellectual role, three Omnibus Personality Inventory (OPI) scales were selected and combined to form an operational measure of intellectual disposition. The three scales used in the present context were Thinking Introversion, Complexity of Outlook, and Esthetic Interests, which were combined in standard score form to provide the index of intellectual disposition. The combined descriptions of these scales taken from the OPI Manual indicates that they measure the following characteristics:

> A liking for reflective thought, particularly of an abstract nature, and interests in a variety of areas such as literature, art, music and philosophy.
>
> An experimental orientation rather than a fixed way of viewing and organizing phenomena, and a fondness for novel situations and ideas.
>
> A tolerance of ambiguity and uncertainty; a preference for dealing with complexity and awareness of subtle variations in the environment.

The graduates entered a variety of pursuits following graduation. About 43 per cent entered college immediately in the fall, while most of those who did not either took up some form of employment, entered military service, took up full-time housekeeping, or attended schools offering special training of less than baccalaureate level. Through the collaboration of the high schools and colleges involved in the study, the original participants were followed up over the next four years, and in 1963 a more extensive questionnaire and an expanded version of the OPI were administered to all those who could be traced and induced to participate. Since the tables to be reported draw upon both 1959 and 1963 data, the groups represented are all part of the longitudinal sample of 4673 college students.

Three groups were chosen for special study. Of major interest

here is the group of "continuers", defined to include any student who was continuously enrolled through the four-year period (except for one semester or less), but did not complete the bachelor's degree within this time period. "Completers" were all those who did complete the degree within the prescribed period; and "dropouts" included all those who withdrew from school before the end of the four-year period.

I. Student characteristics

The first major hypothesis stated that continuers would be less involved in the intellectual role than completers, but more involved than dropouts. To test this hypothesis, the student groups were compared first on the index of intellectual disposition. Table 1 shows that the hypothesis was substantially corroborated. When the three scales were combined, and the distribution of standard scores based on the Center's norm group of college students was cut at the 30th and 70th percentile to form a high, middle, and low intellectuality group, many more completers were found in the high and middle groups, and many more continuers and dropouts were found in the low group. All group differences except one (completers vs. continuers in the high group) were significant beyond the .01 level, as measured by a chi-square test. For example, twice as many completers as

(Table 1 here)

dropouts were found in the highest 30 per cent of the distribution, while 50 per cent of the continuers and 60 per cent of the dropouts were found in the lowest third. Even when these distributions were cross-tabulated by scholastic ability (SCAT), more completers tended to fall into the high or medium range of intellectual disposition,

while continuers and dropouts tended to cluster at the lowest end of the distribution for each level of ability.

Parenthetically, it is interesting to note that, on a list of descriptive nouns, the percentage of students who described themselves as "intellectual" were: completers 35 per cent, continuers 27 per cent, and dropouts 17 per cent, indicating that the three groups differ greatly in the extent to which they identify with the intellectual role. Even those continuers and dropouts who ranked high on intellectual disposition as measured by the OPI were far less prone to consider themselves as intellectuals, while the same pattern was found at the medium and low levels.

2. Autonomy[1], as described in the OPI manual, is a measure of "non-*authoritarian thinking and a need* for independence." It indicates the degree to which a person is open to, and tolerant of other people and their ideas, and can form judgments independently without resorting to facile labelling or unquestioning reliance on higher authority. The mean Autonomy scores obtained by the college groups are shown in Table 2. The group differences are all in the predicted direction, and significant, with completers having a higher mean than continuers, and continuers surpassing dropouts to an even greater degree. In

(Table 2 here)

brief, the expectation that group differences in autonomous thinking would parallel differences in intellectual disposition was borne

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[1]Correlations with TI, CO, and ES are given as .42, .53, and .25 respectively. For the male persisters (completers plus continuers) in our sample they were .43, .48, and .32 respectively, and for female persisters .43, .55, and .34 respectively.

out. Autonomy, as here defined, appears to be related to the trait of intellectual disposition, possibly in a mutual cause-and-effect relationship. The study by Winterbottom suggests that early independence training leads to greater achievement which in turn may supply the intellectual skills which lead to greater mastery and independence in these areas and the increased desire to think for oneself rather than to conform in one's thinking with any one particular group with which one is affiliated.

3. Vocational images. An item, which occurred in both the 1959 and 1963 sociological questionnaires, was designed to probe the vocational images held by the students. It required them to check the level of education, income, public respect, and personal appeal pertaining, in their judgment, to various occupations. Table 3 shows the proportion of each group who reported that the occupation of professor held a great deal of appeal for them. In 1959, the completers had the highest frequency of students who found the occupation of professor attractive, while continuers resembled dropouts. By 1963, after

(Table 3 here)

four years of exposure to the academic world, the percentage of both completers and continuers had increased, but the proportion of completers was still higher, while dropouts decreased slightly, indicating that the desirability of the professor's role, as perceived by completers and continuers has increased, while for dropouts it has decreased. Completers also claimed to know more than continuers about the role of professor (41 per cent vs. 33 per cent in 1963). These results lend support to the view that continuers lag behind completers

in the degree to which they feel sympathy and affinity for the professorial role. Unlike the dropouts, whose views do not change as a result of their college experience, continuers become more like completers in the extent to which they identify with this role. Perhaps the ability to see himself in this role is a major reason why the continuer is able to stay in school, and does not become a dropout. Perhaps for this reason the continuer, who may have entered college for other than intellectual reasons, may begin to enjoy learning as an end in itself toward the middle or end of his college career.

4. Value placed on college. Both the 1959 and 1963 questionnaires contained the question: "How important is college for you personally?" (Table 4). In 1959, large differences were found between dropouts and the other two groups in the proportion who believed college to be extremely important. By 1963, all groups except the women dropouts show a substantial increase in the proportion who deemed college very important. The percentage difference between completers and continuers remains about the same for the men, but increases for the women.

(Table 4 here)

This sex difference in perception of the value of college has also been noted by Heist (1962). It is also readily apparent in the proportion of all groups who expect to attend graduate school (22 per cent men vs. 11 per cent women). Among the men the group differences are quite pronounced (completers 34 per cent, continuers 22 per cent, and dropouts 10 per cent who think graduate school "very likely"). Moreover, completers' plans are more immediate -- 55 per cent as opposed to only 28 per cent of the continuers intend to proceed

directly into graduate school after obtaining the bachelor's degree.

5. Time of decision to attend college. In line with the general hypothesis that rate of progress through college is in part a function of the ease with which the student identifies with the intellectual role is the finding that a considerable proportion of completers made the decision to attend college earlier than continuers, and continuers earlier than dropouts (Table 5). In view of the

(Table 5 here)

greater number of women than men who were completers, it is interesting to note that more women than men made the decision while still in elementary school. This sex difference may be a function of the higher socioeconomic level of the college women in the sample. There is also the possibility that early identification is facilitated for women by having female teachers in the elementary school. Also, a large number of non-academic roles are not open, or at least do not appeal to women. It is probably much easier to choose a role when the alternatives are seen to be more limited than when a great variety of attractive roles suggest themselves. In brief, the complex of interacting factors determining the intellectual level of the student groups may be somewhat different for men and for women.

6. Choice of major. If completers have identified with the intellectual role more closely than continuers and dropouts, it might be expected that they would tend to choose majors in an academic discipline rather than in an applied or technical field. This supposition is borne out substantially. College majors were categorized as academic, i.e., liberal arts (including liberal arts with a teaching

credential) and applied, i.e., business, engineering, and education. Table 6 shows the proportion of each group falling into these respective categories. In the percentage electing an applied field, con-

(Table 6 here)

tinuers resemble dropouts more than completers. In the academic fields, they fall midway between. It is possible, of course, that some continuers in the applied fields had not completed their education by 1963 because they were enrolled in five-year programs, but the possibility could not be assessed from these data.

7. Perceived purpose of education. It may be recalled that the central element of the role of student was viewed as the intellectual task of gaining a basic education and appreciation of ideas, while the process of acquiring vocational skills, though important, was viewed as a more peripheral element. In line with the hypothesis that completers would be those who identified more closely with the central element or intellectual aspect of the role, is the finding that more completers of both sexes regarded basic general education and appreciation of ideas as the major goal of education, while continuers and dropouts tended to emphasize the importance of vocational training.

The possibility that the continuers' emphasis on the vocational purposes of education might be a function of economic deprivation could not be overlooked. But when the results were cross-tabulated both by father's occupation and by intelligence, the results remained substantially the same (Table 9). In fact the differences between completers and continuers were magnified at the high socioeconomic level, where financial hardship could presumably be ruled out as a

determining factor.

(Table 7 here)

Reviewing the evidence presented to this point, it may be stated with a fair degree of confidence that continuers, as a group, are less intellectually disposed than completers (though more intellectually disposed than dropouts), and that the degree of intellectual disposition has certain correlates in the form of greater identification with the intellectual role, greater value placed on the college experience, and choice of life style insofar as this may be inferred from choice of major and plans to attend graduate school. Other differences not tabulated here point to the same conclusion. For example, completers, though higher in scholastic aptitude, report having spent more hours per week in study throughout their college careers than continuers, who in turn report many more hours than dropouts. However, it should be noted that continuers resemble completers in this respect much more than they resemble dropouts. Again, controlling for intelligence made little difference to these results. For example, at the highest ability level, the proportion of completers who reported twenty or more hours of study per week was 42 per cent, as opposed to 40 per cent of the continuers and 19 per cent of the dropouts.

II. Family climate

If it is true that completers are able to complete because identification with the intellectual element of the student's role is easier for them, while continuers come to this identification more slowly because they are testing out many other possible roles, then

one of the major reasons for this difference may lie in features of the family background. In Erikson's (1958) words: "...the sense of identity is a sense of inner continuity and sameness in development, in that what one was made to expect as a child, and what one can anticipate that one will be, coincides with what one is" (p. 142). Sanford (1962) points out that many of the cognitive structures -- the conception of oneself and of the world, the ethical principles -- with which a student enters college, have been taken over automatically and not derived from the subject's own thought and experience. If parents are the first identification models, then optimum conditions for this identification are present when students perceive their parents as intellectual. The second data section will therefore be concerned with this and other features of the family climate.

On the 1963 questionnaire, the subjects' perceptions of their parents' temperaments were assessed by means of a checklist of descriptive adjectives. Table 8 shows the proportion of men and women in each of the three groups who perceived one or both parents as intellectual, ambitious, energetic, easy-going and loving. As expected, more completers perceived their parents as intellectual. However,

(Table 8 here)

the proportion of dropouts who perceived their parents as intellectual slightly exceeds that of continuers, which is a slight reversal of what was expected. A possible confounding factor here may be the relatively large number of women who drop out of school for other than scholastic reasons, and who may see both themselves and their parents as "intellectual." In passing, it may be noted that more women than

men were at the high level of intellectual disposition on the OPI measure and fewer at the low level, that more women than men reported their parents to be intellectual, and that more women than men were completers and fewer were continuers. These findings may be the result of college women being a more selective sample. The possibility that the process of identifying with woman teachers is easier for girls has also been suggested, and is reinforced by the universal finding that girls tend to get higher marks in school. It is clear, however, that the ease with which a student has identified with the intellectual role at a given stage in his career may not be a valid indicator of his potential intellectual commitment. Even the most intellectual women, as Heist (1962) points out, by the end of their college careers, are far more attracted to marriage as the culminating goal, to the extent that they do not forsee any professional role as seriously competing with the primary role of wife and mother. By the same token, continuers, once they have established a final identity, will not necessarily be less intellectual than completers.

Completers also tended to perceive their parents as less easy-going, more ambitious, energetic, and loving. "Loving," of course, is open to a variety of interpretations, but within the data available from the study, it was possible to determine that a loving family climate could consist in part of having parents to whom the student could go frequently for advice, who discussed his college plans with him a great deal, who definitely wanted and encouraged him to go to college,[2] and who reacted to his achievements with praise and appreciation rather than indifference or renewed demands for further

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[2]As reported in the 1959 questionnaire.

achievement. In all these respects, a clear trend was discernible from completers, to continuers and from continuers to dropouts. For example, the last item concerning parental appreciation of the students' accomplishments was one which clearly distinguished between completers and continuers; about 70 per cent of the completers and 60 per cent of the continuers reported that their parents were appreciative or full of praise. Apparently the student's chances of persisting in college, and of proceeding smoothly toward the goal of graduation within the four-year period conventionally allotted to undergraduate study, are considerably enhanced if his decision to attend college coincides with his parents' wishes, and he receives advice and strong encouragement from them to go to college, and favorable reactions to his achievements.

The present discussion has briefly touched on a few aspects of the family climate which have bearing on students' college careers, but they are important factors which would warrant scrutiny in much greater depth.

Discussion

Hypotheses concerning certain intellectual characteristics of college students who prolong their undergraduate studies beyond the conventional four-year period were drawn from current psychological theories which conceptualize adolescence as a "moratorium" or critical period of identity formation during which the individual experiments with various roles, matching them with his self concept and discarding each role or incorporating it into the hierarchy of roles which form his identity.

Among the many roles open to a high school graduate is the role of college student, and the "central element" of this role was here

considered to be the intellectual activity demanded in learning how to learn and learning how to think. The degree to which students are involved in this intellectual discipline varies enormously at college entrance. There are many students who go to college to fulfill needs quite other than the need to know, and for these students much of the knowledge they acquire is in the interest of passing examinations or getting good grades, and remains peripheral to the personality structure. Some of these students will never become seriously involved in the intellectual aspects of college life, because their time is consumed in activities connected with what Trow (1962) refers to as the "collegiate culture," the "world of football, fraternities and sororities, dates, cars and drinking, and campus fun" (p. 205). In fact, some of these students eventually may find the college atmosphere so uncongenial or frustrating in terms of the intellectual demands made upon them that they withdraw from school.

At the opposite extreme is the typical freshman described by Sanford, who arrives on campus filled with enthusiasm, with eager anticipation of the intellectual challenges he is about to experience. Some of these students have already sketched out the essential features of their life career at this time, and may adhere closely to their outlined program. For these students, the passage through undergraduate school to graduation is accomplished with relative ease or speed, especially when the enthusiasm is a result of interest in the intellectual enterprise, and not simply an eagerness to obtain the prestige of having a degree, or a desire to "get ahead" in the business world.

Between these two groups is a third group of students who are not seriously involved in any role. They are not whole-heartedly

members of the academic culture, nor of the collegiate culture. Moreover, they need time to become acquainted with the many different aspects of college life, to try out the many possible roles which may have become evident to them, possibly for the first time.

It might well be that the individual who has tried out many roles, and tested their suitability for himself, is ultimately much more secure in the identity which he finally adopts. On the other hand, he may develop into the sort of person who cannot take hold of any kind of life. The successful termination of the testing period, and its resolution in a suitable identity may depend upon many individual and environmental factors. In other words, the desirability of a prolonged testing period is a matter both of philosophical viewpoint and of individual circumstances as well as differences in personality and psychological make-up.

In this paper, evidence was presented to suggest that a possible reason why some students prolong their undergraduate studies may be the lack of involvement in the intellectual activities which form the major expectations associated with the student role. The hypothesis that "continuers," as these students were called, would rank lower on measures of intellectual disposition and autonomous thinking than "completers" was borne out. Other differentiating items showed the continuers to be more concerned with the vocational than the educational aspects of college life, and to find the role of professor less appealing. Their lack of involvement in the intellectual role was also evident in the fact that they tended to choose their majors in applied rather than academic fields. In brief, the accumulated evidence substantiated the central thesis of this paper that the greater the degree of intellectual involvement a student manifests, the greater his chances

of successfully completing college within the conventional time limit. On the other hand, a student who is testing roles outside the academic culture, or who finds other roles more attractive than the intellectual role is more likely to defer graduation.

The second hypothesis was concerned with perceived differences in family climate between the completers and continuers. This hypothesis was based upon the supposition that the predicted intellectual differences between these groups would be related to differences in parental models, especially insofar as they related to intellectual characteristics of the parents. In point of fact, continuers were less likely to describe both themselves and their parents as intellectual; and fewer continuers saw their parents as energetic, ambitious, loving, and appreciative. They reported less parental encouragement and discussion of college plans, and fewer occasions for seeking parental advice. It appears that the high school graduate who perceives his family as being both intellectual and supportive has a much greater chance of attending college in the first place, and of proceeding toward graduation within the normal time period.

Given the tremendous range in intellectual disposition and role-playing ability in college freshman, the major tasks facing college educators would appear to lie in devising the type of curricula which will emphasize the attractiveness of the intellectual life, and win the student to the intellectual enterprise. The student must become aware not only of the tremendous variety of roles open to him, but of the prodigious opportunities a college education presents to gratify his natural curiosity, to become deeply involved in the pursuit of knowledge.

In a previous article (Trent, Athey, and Craise, 1965), the authors have pointed out the need for young citizens of this modern, technological society to obtain a basic liberal education which will give them flexibility to change roles, and offset the intellectual stagnation which may result from accelerated automation. Not only does the need lie in devising teaching programs of increased breadth and scope but also in the presentation of a wide variety of stimulating ideas. If an independent critical spirit and autonomous thinking are to develop, the judicious timing of this development will come through experiences in independent learning, in allowing the student leeway, when he is ready to profit from it, in exploring ideas on his own initiative.

Bibliography

Center for the Study of Higher Education. Omnibus Personality Inventory -- Research Manual. Berkeley: University of California, 1962.

Erikson, E. H. The syndrome of identity diffusion in adolescents and young adults. In J. M. Tanner & Bärbel Inhelder (Eds.), Discussions on child development. New York: International Universities Press, Inc., 1958. Pp. 133-168.

Haggard, E. Personality dynamics and intellectual achievement. In Lois B. Murphy & Esther Raushenbush (Eds.), Achievement in the college years. New York: Harpers & Brothers, 1960. Pp. 116-133.

Heist, P. A. A commentary on the motivation and education of college women. J. Nat. Assoc. of Women Deans and Counselors, 1962, 25, 51-59.

Sanford, R. N. Implications of personality studies for curriculum and personnel planning. In R. L. Sutherland, W. H. Holtzman, E. A. Koile, & B. K. Smith (Eds.), Personality factors on the college campus: Review of a symposium. Austin, Texas: The Hogg Foundation for Mental Health, 1962. Pp. 3-28.

Sontag, L. W. & Kagan, J. The emergence of intellectual achievement motives. Amer. J. Orthopsychiat. 1963, 33(3), 532-535.

Trent, J. W., Athey, Irene J. and Craise, Judith L. Technology, education, and human development. Educational Record, Spring 1965. In press.

Trow, M. Student cultures and administrative action. In R. Sutherland, W. H. Holtzman, E. A. Koile, & B. K. Smith (Eds.), Personality factors on the college campus: Review of a symposium. Austin, Texas: The Hogg Foundation for Mental Health, 1962. Pp. 203-225.

Weinstock, S. A. Role elements: a link between acculturation and occupational status. Brit. J. Sociol. 1963, 14, 144-149.

Winterbottom, M. R. The relation of need for achievement to learning experiences in independency and mastery. In J. W. Atkinson (Ed.), Motives in fantasy, action, and society. Princeton: Van Nostrand, 1958. Pp. 450-478.

Tables

Table 1. Proportion of Students in Each College Outcome Group at Three Levels of Intellectual Disposition

	N	Level of intellectual disposition		
		High	Middle	Low
Completers	777	21	40	39
Continuers	523	19	30	51
Dropouts	873	10	28	62

Table 2. Mean Autonomy Scores Obtained by the College Outcome Groups

	N	Mean	SD	CR	P
Completers	780	25.1	6.76		
				5.00	<.05
Continuers	524	24.5	6.57		
				31.93	<.01
Dropouts	873	20.7	7.01		

Table 3. Proportion of College Outcome Groups Who Report Occupation of Professor as Having "a Great Deal of Appeal"

	N	1959	1963
Completers	792	33	43
Continuers	538	23	36
Dropouts	890	25	24

Table 4. Importance of College as Reported by the College Outcome Groups in 1959 and 1963

	N	Very important		Not very important[3]	
		1959	1963	1959	1963
MEN					
Completers	363	75	94	23	5
Continuers	374	71	89	26	11
Dropouts	386	44	66	52	33
WOMEN					
Completers	429	70	94	26	6
Continuers	164	65	81	34	18
Dropouts	504	40	33	57	67

[3]Combined categories: somewhat important, somewhat unimportant, and not at all important. In 1959 the wording of the categories was slightly different, e.g., "extremely important."

Table 5. Time of Decision to Attend College as Reported by the College Outcome Groups

	N	In elementary school	In junior high school	Early in high school	In junior year of high school	In senior year of high school
MEN						
Completers	363	41	18	18	8	9
Continuers	374	33	19	25	7	10
Dropouts	386	14	16	21	17	19
WOMEN						
Completers	429	50	18	15	5	5
Continuers	164	46	18	16	7	10
Dropouts	504	29	13	19	10	19

Table 6. Proportion of College Outcome Groups Majoring in Academic and Applied Fields

	N	Academic	Applied
MEN			
Completers	363	58	42
Continuers	374	44	56
Dropouts	386	28	56
WOMEN			
Completers	429	50	49
Continuers	164	42	58
Dropouts	504	27	56